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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,487	09/28/2001	C. Kent Aldridge	01RE145 DODG:0046	5298

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EXAMINER

COMPTON, ERIC B

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,487

Applicant(s)

ALDRIDGE, C. KENT

Examiner

Eric B. Compton

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-21 and 38-40 is/are pending in the application.
- 4a) Of the above claim(s) 38-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-21 in Paper No. 3 is acknowledged.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Newly submitted claims 38-40 are directed to an invention that is independent or distinct from the elected invention originally claimed for the following reasons: claims 38-40, although product-by-process claims, are nonetheless product claims (classified in class 384), while claims 1-21 are directed to a method for sealing a bearing assembly (classified in class 29 subclass 898.11). These inventions are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product can be formed by a prior art method. Since, Applicant has already elected claims drawn toward a method of sealing a bearing assembly, claims 38-40 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 5 recites the limitation "the annular groove" in line 4, there is insufficient antecedent basis for this limitation in the claim. It is believed that this limitation should read –annular interface— as found in claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,336,971 to Reiter.

Regarding claims 1-2, Reiter discloses a method for assembling a bearing seal. "Initially, the end of the axial wall 62 on each case 60 is straight so that it easily fits over the turned down end surface 34 on the cup 24 or 26, but once the seal case 60 is pressed onto the cup 24 or 26, its axial wall 62 is deformed inwardly into annular groove 32 adjoining the turned down surface 34 to secure the seal case 60 firmly on the cup 24 or 26." (col 6, lines 35-41).

Regarding claims 4-5, Reiter discloses a collet tool (F, see Figure 4) for crimping the seal. Elastic member (76) is provided, which when collet undergoes elastic deformation, the seal member (60) is crimped into the annular interface (32). The deformation of the elastic ring (76) inherently forms fingers that engage the seal. The number of fingers is dependent of the number of bosses (82) provided.

Regarding claim 6, Reiter provides a flinger (68).

Regarding claim 7, the seal of Reiter includes a support ring (60) and an elastomeric member (66). It is the support ring that is crimped.

7. Claims 1, 2 6, and 7, are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 3,683,475 to Mackas et al.

Mackas et al disclose a method of forming a bearing having a seal. "Regardless of this end formation, crimping action involved driving engagement with the outer lip 31, with its resulting axial and radial deformation, to conform to the groove contour and assure axial retention between walls 27-28." (col 3, lines 7-11). "This result is an antirotation locked assembly, with fully the sealing effectiveness of prior assemblies." (col 4, lines 22-24).

8. Claims 1, 3, 6, and 7, are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,408,809 to Walter et al.

Walter el al disclose a method of forming a bearing having a seal. "[T]he cover piece 10 is slid to its final position and a portion of the mounting section 22 is deformed into groove 27. Without further explanation, it is also possible to roll the mounting

section 22 throughout its circumference, in groove 27." (col 4, lines 39-43). Note: the seal is crimped to a portion of the inner race (2).

9. Claims 1, 2, 6, and 7, are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,470,157 to Dougherty et al.

Dougherty et al disclose a method of forming a bearing having a seal. "Initially, the axial wall 28 forms a continuous cylinder, but once the wall is fitted over the surface 12, a short section of the wall 28 is rolled inwardly into the groove 13 of the cup 2, to produce an annular locking segment 29 which mechanically unites the outer case 26 and cup 2." (col 3, lines 53-58).

10. Claims 1, 2, and 7, are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,242,229 to McLarty.

See Figure 1 and prior art.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 8-12 and 15-19, are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,242,229 to McLarty.

McLarty (see Figure 2, esp.) discloses a method of forming a bearing having a two-piece bearing seal. One piece of the bearing seal is engaged with the inner race

and the other piece of the bearing seal is engaged with the outer race. The two pieces of the seals cooperate to prevent dirt from interfering with the rolling members. In these references the fingers of the bearing seal pieces engage with corresponding grooves in both the inner and outer races.

However, this reference does not disclose crimping the first and second pieces of the bearing seal to the inner and outer races of the bearing, respectively.

McLarty preferred embodiment is a snap-fit engagement. However, McLarty discloses as prior art, a crimping process as well (see Figure 1).

Regarding claims, 8 and 15, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have crimped the first and second pieces of the bearing seal to the inner and outer races of the bearing, respectively of McLarty, in light of the teachings of his prior art, in order to secure the seal onto the bearing race so that it cannot be withdrawn.

Regarding claims 9-10 and 18-19, the prior art of McLarty discloses that the seal is engaged into an annular groove in the bearing race.

Regarding claims 11 and 16, in McLarty the second seal member includes an elastomeric seal located on a support member.

Regarding claims 12 and 17, in McLarty an elastomeric seal is imposed between the inner and outer races, which rotate with respect to each other. It has been held that the recitation that an element is "configured to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

13. Claims 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,242,229 to McLarty or US Patent 5,695,290 to Mondak et al, in view of US Patent 4,336,971 to Reiter.

McLarty (see Figure 2, esp) and Mondak et al (see Figure 5, esp) disclose a method of forming a bearing having a two piece bearing seal. One piece of the bearing seal is engaged with the inner race and the other piece of the bearing seal is engaged with the outer race. The two pieces of the seals cooperate to prevent dirt from interfering with the rolling members. In these references the fingers of the bearing seal pieces engage with corresponding grooves in both the inner and outer races.

However, these references do not disclose crimping the first and second pieces of the bearing seal to the inner and outer races of the bearing, respectively.

Reiter discloses a method for assembling a bearing seal. "Initially, the end of the axial wall 62 on each case 60 is straight so that it easily fits over the turned down end surface 34 on the cup 24 or 26, but once the seal case 60 is pressed onto the cup 24 or 26, its axial wall 62 is deformed inwardly into annular groove 32 adjoining the turned down surface 34 to secure the seal case 60 firmly on the cup 24 or 26." (col 6, lines 35-41).

Regarding claims, 8 and 15, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have crimped the first and second pieces of the bearing seal to the inner and outer races of the bearing, respectively of either McLarty and Mondak et al, in light of the teachings of Reiter, in order to secure the seal onto the bearing race so that it cannot be withdrawn (see col 7, lines 41-43).

Regarding claims 9-10 and 18-19, Reiter discloses that the seal is engaged into an annular groove in the bearing race.

Regarding claims 11 and 16, in both McLarty and Mondak et al, the second seal member includes an elastomeric seal located on a support member.

Regarding claims 12 and 17, in both McLarty and Mondak et al an elastomeric seal is imposed between the inner and outer races, which rotate with respect to each other. It has been held that the recitation that an element is "configured to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

Regarding claims 13, 14, and 20-21, Reiter discloses a collet tool (F, see Figure 4) for crimping the seal. Elastic member (76) is provided, which when collet undergoes elastic deformation, the seal member (60) is crimped into the annular interface (32). The deformation of the elastic ring (76) inherently forms fingers that engage the seal. The number of fingers is dependent of the number of bosses (82) provided. It is inherent that a separate collet would be needed for each crimping operation due to the differences in diameter between the inner and outer races.

Prior Art References

The prior art references listed on the enclosed PTO-892, but not used in a rejection of the claims, are cited for their teachings of installing a bearing seal.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (703) 305-0240. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory M. Vidovich can be reached on (703) 308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

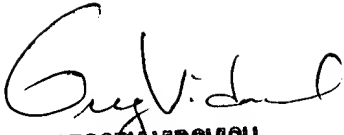
Application/Control Number: 09/966,487

Page 10

Art Unit: 3726

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January 24, 2003


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